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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,103	12/14/2001	Karl James Molnar	P14953-US1	6484
24239	7590	09/08/2004	EXAMINER	
MOORE & VAN ALLEN, PLLC 2200 W MAIN STREET SUITE 800 DURHAM, NC 27705			BOCURE, TESFALDET	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/017,103

Applicant(s)

MOLNAR, KARL JAMES

Examiner

Tessfaldet Bocure

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3 and 4</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statements (IDSs) received on 02/12/02 and 05/29/03 have been considered and the initialed copies, four copies, have been considered and the initialed copies are transmitted with this correspondence. However the cited reference, US patent number 5,807,035, received February 12, 1992 has not been considered because it was cited on the IDS received on May 29, 2003. Considering the above US patent will result in showing twice on the front of the patent once issued.

### ***Drawings***

2. The Examiner has accepted the originally filed drawings on 12/14/01.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

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Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-33 are rejected under 35 U.S.C. 102(e) as being anticipated by **Dabak** (EP 1-133-071 A2).

**Dabak** teaches a RAKE receiver (fig.7) for receiving and jointly estimating the channel and detecting (712 and 714) the plurality data symbols (see input to finger 700-704) corresponding to a plurality of users comprising: joint channel estimating of the plurality of the received symbols (804-818 in fig. 8) and iteratively detecting (824) the received current symbols using the previously estimated channel and previously detected symbols (see starting page 6, line 8 through page 8, line 6 and fig. 8) as in claims 1,7,11,12,13,19 and 27.

Further to claims 2 and 14, **Dabak** a plurality of iteration on the channel estimation and data detection is performed until minimum ISI is satisfied (see page 7, lines 1-6), claimed updating in claims 2 and 14.

Further to claims 3-6,8-10, 15-18,25,26, 31, **Dabak** also teaches that:

A midamble symbols in the received CDMA in fig.4 a, claimed pilot in CDMA as in claim 3 and semi-blind as in claims 4-6,15-18,21 are received for further use by the receiver for tracking the channel as in claims 21 and 22;

The estimated channel response is used for the next symbols (page 6, lines 20-25) as in claim 8;

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The channel estimation for the current symbol, claimed broad pulse-shaped in claims 9,10,23-24, and 30, is inherently initialed every time new channel estimation and data detection is performed;

The channel estimation is performed based on the received pilot signal, claimed asynchronous pulse shaped components as in claims 25 and 26.

The data detecting unit in figure 6b has elements 628 and 630, the claimed broad reformation in claims 20 and 32-34 and conjugate multipliers (640,646,644,654 and adders 660.666);

The channel estimation and data detection is performed on each of the received time slots of figure 3, claimed block estimation in claim 28; and using the pilot symbols fro performing a recursive estimation of the channel and detection of the data thereafter as in claim 29.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 6,304,618, 6,477,210, 6,707,864 and 6,775,260 issued to Hafeex et al., Chuang et al., Kim and Dabak et al., respectively and IEEE publications, "Joint Channel Estimation and Data Detection in space-time communication" and "Smart Antennas for Combined DOA and Joint Channel Estimation in Time-Slotted CDMA Mobile Radio Systems with Joint Detection" to Cozzo a et al., and Blanz et al. respectively disclose a joint channel estimation and data detection.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T.Bocure

Tesfaldet Bocure  
Primary Examiner  
Art Unit 2631

